

THE IBIS.

FIFTH SERIES.

No. XXII. APRIL 1888.

XIII.—*Notes on Woodpeckers*.—No. XIV. *On the Genus Gecinus*. By EDWARD HARGITT, F.Z.S.

[Concluded from p. 42.]

8. GECINUS SQUAMATUS.

Picus squamatus, Vig. P. Z. S. 1830, p. 8; Gould, Cent. B. Himal. M. pl. xlviii. (1832); Jard. & Selby, Ill. Orn. iii. pl. cviii. ♂ (circa 1835); Blyth, J. A. S. B. xii. p. 998 (1843); Horsf. & Moore, Cat. B. Mus. E.I. Co. ii. p. 659 (1856-58); Leith Adams, P. Z. S. 1859, p. 173; Sundev. Consp. Av. Picin. p. 59 (1866); Giebel, Thes. Orn. iii. p. 180 (1876).

Picus dimidiatus (non Temm.), Gray, Hardw. Ill. Ind. Zool. i. pl. xxix. fig. 1 (1830-32).

Malacolophus squamatus, Swains. Classif. B. ii. p. 308 (1837).

Chrysoptilus squamatus, Vig. P. Z. S. 1841, p. 6.

Brachylophus squamatus v. *nepalensis*, Hodgs. Icon. ined. in Brit. Mus. no. 148 (♂ ♀).

Brachylophus squamatus, Hodgs. in Gray's Zool. Misc. p. 85 (1844).

Gecinus squamatus, Gray, Gen. B. ii. p. 438 (1846); Blyth,

Cat. B. Mus. As. Soc. p. 57, no. 260 (1849); Bp. Consp. Gen. Av. i. p. 127 (1850); id. Consp. Volucr. Zygod. p. 10 (1854); Reichenb. Handb. Scans. Picinæ, p. 350, no. 801, pl. dcxxvii. figs. 4174-75 (1854); Horsf. & Moore, Cat. B. Mus. E.I. Co. ii. p. 659, no. 959 (1856-58); Leith Adams, P. Z. S. 1858, p. 475; Jerd. B. Ind. i. p. 286 (1862); Beavan, Ibis, 1867, p. 138; Tytler, op. cit. 1868, p. 202; Pelz. tom. cit. p. 320; Gray, List Pict. Brit. Mus. p. 76 (1868); Beavan, Ibis, 1869, p. 414; Gray, Hand-l. B. ii. p. 192, no. 8684 (1870); Jerd. Ibis, 1872, p. 9; Cock & Marsh. Str. F. 1873, p. 350; Bidd. op. cit. 1880, p. 314; id. Ibis, 1881, p. 49; Scully, tom. cit. p. 430; id. Str. F. x. p. 102 (1881); Salv. Cat. Strickl. Coll. p. 391, no. 1912 (1882); Marshall, Ibis, 1884, p. 410.

Chloropicus squamatus, Malh. Monogr. Pict. ii. p. 131 pl. lxxviii. figs. 1-3 (1862).

Gecinus flavirostris, Menzbier (ex Zarudnoi, MS.), Bull. Nat. Mosc. 1886, pt. 1, p. 440.

Gecinus zarudnoi, Menzbier, Ibis, 1887, p. 301.

Adult male. Above, including scapulars, uniform vivid green; wing-coverts uniform green of a darker shade, brighter along the forearm; bastard-wing black, with whitish spots; primary-coverts similar, but having greyish spots; quills dusky, outer webs of the primaries margined at the base with green and barred with white; those of the secondaries partially or entirely green, and having indistinct greyish spots; inner webs spotted or partially barred with white; shafts brownish black; rump and upper tail-coverts bright green, the feathers margined and tipped with chrome-yellow; tail black, edged at the base with olive-yellow, and barred with buffy white, the central ones obliquely so, dwarf feather paler and greener; shafts black at the tip, dusky brown at the base; nasal plumes black; base of the forehead and outer edge of the crown black, slightly varied with grey; forehead, crown, and occiput crimson, bases of the feathers leaden grey varied with black, bases of the nuchal ones black; a spot in front of the eye, and a short streak behind it, black; a broad yellowish-white superciliary stripe, and another from

above the base of the upper mandible, passing under the eye and the ear-coverts; sides of the face smoky green, varied with dull greenish white; malar stripe streaked intense black and white; sides of the neck and hind neck green; chin and throat smoky green; fore neck and chest dull yellowish green; underparts, including under tail-coverts, yellowish white, the feathers with an intermarginal line and occasional shaft-streak of black or olive-black, and having a scaly appearance; under wing-coverts yellowish white, barred with and having V-shaped markings of black; axillaries white, tipped with yellow and barred with black: "irides, a circle of dark pinkish red round the black pupil, surrounded by a second ring of light pink; upper mandible horn-coloured at the base, the tip and the whole of the lower mandible being of a brightish yellow" (*R. C. Beavan*). Total length 13·5 inches, culmen 1·85, wing 6·25, tail 4·65, tarsus 1·1; toes (without claws)—outer anterior 0·8, outer posterior 0·72, inner anterior 0·63, inner posterior 0·45.

Young male. Upper parts dusky brown, edged with green; wing-coverts similar, the greater series barred with greyish or dingy white; base of the forehead black varied with grey; the feathers of the remainder of the forehead, crown, and occiput tipped with scarlet (more orange on the occiput) on a black ground; the bases leaden grey; feathers of the rump and upper tail-coverts margined and tipped with pale chrome-yellow, and having faint dusky V-shaped markings; chin, throat, and fore neck dingy buffy white; sides of the neck ashy brown, the tips of the feathers greenish, and having a subterminal blackish spot; from the chest to the vent inclusive dull white, with a slight tinge of yellow, the chest being more ashy yellow, and the whole of the feathers having an intermarginal V-shaped blackish marking with a white centre; under tail-coverts greyish white, with similar markings and white centre; under wing-coverts white, spotted and varied with blackish.

A young male in the Hume collection, from Simla, July 20th (*A. O. Hume*), rather older than the one above described, has the whole of the upper parts uniform green, or nearly so,

the feathers having lost their dusky-black centres; there is more red on the top of the head, and above the white superciliary stripe there is a blackish-brown one bordering the red crown; the spotting on the side of the neck is less marked, and this, as well as the chin, throat, and chest are of a richer buff-colour, the underparts being also more of a buffy yellowish; the soft parts are given as follows: "legs and feet greenish horny; irides brown; bill dusky yellow on upper mandible, yellow on lower mandible."

Adult female. Differs from the male in the absence of red on the crown and occiput, these parts being black, the feathers of the former margined with smoky grey, and having a streaked appearance, the bases being leaden grey; chin and throat lighter: "irides, a circle of dark pinkish red round the black pupil, surrounded by a second ring of light pink" (*R. C. Beavan*): "bill dusky above at base, the rest yellowish; legs greenish plumbeous" (*Jerdon*). Total length 13.5 inches, culmen 1.9, wing 6.35, tail 4.5, tarsus 1.3.

Hodgson, in his series of unpublished coloured drawings of Nepalese birds, contained in the library of the Zoological Department of the British Museum, figures upon the second plate bearing the number 148 (there are two with the same number), under the title of *Brachylophus squamatus* v. *nepalensis*, two birds, which are certainly not the adult of *G. squamatus*, and resemble the young of that species except in one or two points. I may briefly describe the specimens figured. The female has the rump *brilliant yellow*; the throat and chest with varied and squamate markings of black; the upper mandible bluish, the under mandible yellow. The male is similarly marked on the throat, and has the bill blackish brown. These birds closely resemble an unmistakable young bird in my collection, except that in the latter the rump is not brilliant yellow, and they are also similar to a specimen from Murree in the British Museum, and which I take to be also a young bird, but in this the bill is yellow; this, however, may not have been so in life. Herr A. v. Pelzeln (*Ibis*, 1868, p. 320) records a male and a female bird collected by Stoliczka at Pangi, North-west Himalayas, which

he takes to be the young of *G. squamatus*. Judging from Herr Pelzeln's description, the specimens agree with what I also take to be the young of this species. One would think that Hodgson must have been well acquainted with the full-plumaged *G. squamatus*, and if so, it is a matter of surprise that he did not designate his figures as those of the young, and it is to be regretted that the specimens figured are not in the British Museum collection. I have not seen a single Nepalese example of the present species, and as it was not obtained by Dr. Scully, it is probably rare in that country. Under the title of *Gecinus flavirostris*, Dr. Menzbier (Bull. Nat. Mosc. 1886, pt. i. p. 449) has described a Woodpecker from the Murgab river, of which the following is the diagnosis:—“ ♂. *Gecino viridi* similis, sed rostro flavo; stria superciliari lata alba, supra nigro marginata; vitta mystacali nigra, albo-varia; abdomine virescenti, fusco striato. Habitat ad fl. Murgab.” Judging from the above diagnosis of the bird, and from its having been compared, in the first instance, with *G. viridis*, and not with *G. squamatus*, its nearer ally, I fail to see in what respect it differs from the latter species. Dr. Menzbier makes no mention of the *pale* green colour of his bird, nor of the darker green barring on the wing-coverts possessed by *G. gorii*, and he distinctly states, in the German description of the species, that the feathers of the underparts have black central stripes, which do not occur in *G. gorii*. I therefore see no reason for concluding that our birds are identical. Since the publication of Dr. Menzbier's paper in 1886, this author has stated in ‘The Ibis’ for 1887, p. 301, that he has received the typical specimens of his *G. flavirostris*, and that he has seen my description of *G. gorii*, and has pronounced both birds to belong to the same species. In the latter paper in ‘The Ibis,’ Dr. Menzbier tells us that, while writing, he has before him a specimen of *G. squamatus* for comparison, and it is to be regretted that he has not pointed out the differences between it and his new species, which he says are nearly allied. Dr. Menzbier considers that my name of *G. gorii* must rank as a synonym of the species originally described by him as *G. flavirostris*, but

which title, he states, cannot stand, as the name has been previously given by Verreaux to a Woodpecker from Kokonor, and he therefore renames his species *G. zarudnoi*. In the 'Nouvelles Archives du Muséum,' 1871 (Bull. vii. p. 4), there is certainly a Woodpecker named, but with a query, as follows:—"Picus? roux à bec jaune (*flavirostris*), n. sp.?" This is apparently the only description of the bird, which was only seen at Kokonor, and was presumably written by Abbé David, and not by Verreaux, who could not have seen the bird in question. The above-named bird, however, is not a *Gecinus*, and is no doubt the well-known *Picus hyperythrus*. If (as Dr. Menzbier thinks) our birds are the same, and his original title, *G. flavirostris*, is preoccupied (two points which I, however, do not admit), I do not see how he can ignore my name of *G. gorii* and rename his species. I shall retain the latter title for the bird obtained by Dr. Aitchison at Paddá Sultan, on the Helmand, until it is clearly shown that Dr. Menzbier's species is the same, in which case I will adopt his name of *G. flavirostris*. It may be that both our birds are distinct from *G. squamatus* as well as from each other; but until Dr. Menzbier points out the differences between *G. flavirostris* and *G. squamatus*, it is quite impossible to give the correct synonymy. For the present I give *G. flavirostris* and *G. zarudnoi* as synonyms of *G. squamatus*, and I make *G. gorii* distinct.

The present species ranges from Gilgit in the north, into Cashmere and Afghanistan, and through the Himalayas to Kumaon and Nepal. Dr. Scully and Major Biddulph found it at Gilgit, and the former author (*Ibis*, 1881, p. 430) writes:—"A permanent resident in the district, found in the lower valleys from November to May, and during the rest of the year at an elevation of 9000 feet." Capt. G. F. L. Marshall (*Ibis*, 1881, p. 49) describes some examples obtained by Major Biddulph:—"Three specimens shot in December and January are identical with the Indian type, but three others obtained in March, at an elevation of 5000 feet, near Gilgit itself, are remarkable for having the neck, back, and outer margins of secondaries grey instead of green, while

the wing-coverts are mixed with green. All three are females, and in two out of the three some traces of green are visible among the grey on the lower back, so that it may be only a phase of plumage of *G. squamatus*." Dr. Scully (*t. c.* p. 430) observes that the specimens referred to by Capt. Marshall are birds about a year old, with the feathers worn and faded, and which, at the next moult, would assume their usual green colour. I have seen one of these birds, which is in the Hume collection, and I am of the same opinion as Dr. Scully. In the British Museum are specimens from Cashmere (Langworthy), and Jerdon also recorded it from that country. Dr. Leith Adams (*P. Z. S.* 1859, p. 173), in his notes on this species, states that it is found in the "woods and forests of Cashmere and the lesser ranges; pretty common; solitary in its habits." In the British Museum there is an example from Afghanistan (*Griffiths*). Tytler, in his "Notes on the Birds collected by Capt. Beavan" (*Ibis*, 1868, p. 202), observes, "Between Simla and Mussoorie, common at heights of from 5000 to 9000 feet." Jerdon found this Woodpecker in the valley of the Sutlej. Hodgson obtained the young birds in Nepal, and, according to Jerdon, it is common in Kumaon.

9. *GEVINUS GORII*.

Gecinus squamatus (non Vigors), Swinhoe, *Ibis*, 1882, p. 102.

Gecinus gorii, Hargitt, *Ibis*, 1887, p. 74.

Adult male. Back pale green, with a few dusky V-shaped markings; rump and upper tail-coverts of the same colour as the back, but the feathers tipped with chrome-yellow; scapulars and wing-coverts pale green, barred with dusky green, the former having a few dusky V-shaped markings like the back; bastard-wing black, spotted with creamy white on both webs; primary-coverts dusky black and similarly spotted, but with a greyer shade of colour; quills dusky black, the outer webs of the primaries broadly barred with creamy white, and more or less washed with green on the inner feathers, the inner webs spotted with white on the

margin, these spots on the inner feathers extending along their whole length; the outer webs of the secondaries barred with drab-grey, tinged with green, the inner webs being transversely spotted with white on the margin along the whole length of the feather; shafts dusky brown; tail yellowish cream-colour, narrowly barred with blackish brown, the basal margin of the central feathers washed with yellowish olive, the lateral feathers yellow at the tip; dwarf feather barred dusky olive and whitish, slightly washed with green; shafts slaty black, those of the outer feathers browner. (The head is very much damaged, but it has every appearance of having been similar to *G. squamatus*; the top of the head is red and the malar stripe is black and white.) Throat and chest uniform dull yellowish, with a green tinge; the remainder of the under surface of the body and under tail-coverts yellowish white, the feathers of the underparts having a thread-like intermarginal line or squamate marking of blackish olive, these markings being paler on the abdomen; under wing-coverts yellowish white, transversely varied with black; underside of the tail washed with yellow, this colour being very brilliant on the tips of the feathers. Total length 13 inches, culmen 1·8, wing 6·5, tail 4·7, tarsus 1·2; toes (without claws)—outer anterior 0·82, outer posterior 0·82, inner anterior 0·7, inner posterior 0·42.

Adult female. Differs from the adult male in the absence of red on the head. As the head, neck, upper back, and wing-coverts are much damaged in the male, the following is a description of these parts taken from the female:—Nasal plumes black; forehead, crown, occiput, and nape intense black, the bases of the feathers leaden grey; the face creamy grey, with a narrow black line behind the eye, the lores creamy white; superciliary stripe, also a stripe under the ear-coverts, creamy white; cheeks white, striped with black; chin and throat creamy buff, shading into yellowish cream-colour on the chest, and greenish on the side of the neck; hind neck and upper back pale green, the feathers of the latter having a central V-shaped dusky marking; wing-coverts pale green, barred with a darker shade of green, as in the male.

This specimen has the outer webs of the secondaries strongly washed with green (these feathers in the male type being much worn); the tail-shafts are also browner. Total length 13·5 inches, culmen 1·8, wing 6·05, tail 4·6, tarsus 1·15.

G. gorii differs from *G. squamatus* in being of a very pale green above, the wing-coverts and scapulars barred with a darker shade of green; the squamate markings on the underparts reduced to a thread-like intermarginal line; the light bars on the quills as broad, or even broader, than the black interspaces; the tail creamy white, narrowly barred with brownish black, these bars showing but faintly on the under surface, which is strongly washed with golden yellow.

This bird is a desert form of the Himalayan *G. squamatus*, and the type specimen, which is in the British Museum, was brought to this country by Brigade-Surgeon Aitchison, Naturalist with the Afghan Delimitation Commission. It was shot by Captain Gore on the 26th of October 1884, at Paddá Sultan, on the Helmund. The nature of the country in which *G. gorii* was found appears to be quite different from that inhabited by its ally, *G. squamatus*. Dr. Aitchison informs me that the only indigenous trees are *Populus euphratica* and *Tamarix articulata*, which grow in the bed of the river, together with numerous small tamarisks and reeds, the high banks being extremely barren and devoid of anything in the way of vegetation except salsolaceous scrub.

The female specimen is in the Hume collection, now contained in the British Museum, and was obtained by Dr. Duke at Quetta, in December 1877, at an altitude of 5500 feet.

10. *GEVINUS VITTATUS*.

Picus vittatus, Vieill. N. Diet. d'Hist. Nat. xxvi. p. 91 (1818); id. & Bonn. Enc. Méth. p. 1317 (1823); Drap. Diet. Class. xiii. p. 505 (1828); Less. Traité, p. 221 (1831); Sundev. Consp. Av. Picin. p. 59 (1866), pt.; Giebel, Thes. Orn. iii. p. 186 (1876), pt.

Picus affinis, Raffl. Trans. Linn. Soc. xiii. p. 288 (1821); Vig. Mem. Raffl. p. 668 (1830); Less. Compl. Buff. ix. p. 312 (1837).

Picus dimidiatus, Horsf. Gen. Cat. Jav. B. (1824); Valenc. Dict. Sc. Nat. xl. p. 174 (1825); Wagl. Syst. Av. *Picus*, sp. 88, add. sp. 5 (1827); Drap. Dict. Class. xiii. p. 507 (1828); Temm. Pl. Col. texte, 85^e livr. (1830); Less. Compl. Buff. ix. p. 312 (1837).

Gecinus dimidiatus, Boie, Isis, 1831, p. 542; Gray, Gen. B. ii. p. 439 (1846); De Filippi, Cat. Mus. Mediol. p. 21, no. 794 (1847); Blyth (pt.), Cat. B. Mus. As. Soc. p. 58, no. 262 (1849); Bp. Consp. Gen. Av. i. p. 127 (1850); id. Consp. Volucr. Zygod. p. 10 (1854); Reichenb. Handb. Scans. Picinæ, p. 350, no. 799, pl. dxxi. figs. 4141, 4142 (1854), pt.; Horsf. & Moore, Cat. B. Mus. E.I. Co. ii. p. 660, no. 960 (1856-58); Schomb. Ibis, 1864, p. 257; Vorderman, Batav. Vog. pt. 2, p. 19 (1882).

Malacolophus dimidiatus, Swains. Classif. B. ii. p. 308 (1837).

Gecinus affinis, Horsf. & Moore, Cat. B. Mus. E.I. Co. ii. p. 662, no. 964 (1856-58).

Chloropicus dimidiatus, Malh. Monogr. Pict. ii. p. 132, pl. lxxvi. figs. 4-6 (1862).

Gecinus vittatus, Gray, List Pict. Brit. Mus. p. 76 (1868), pt.; id. Hand-l. B. ii. p. 192, no. 8683 (1870), pt.; Salvad. Ucc. Born. p. 51 (1874); Tiraut, Ois. Basse-Cochinchine, p. 90 (1879); Salv. Cat. Strickl. Coll. p. 390, no. 1910 (1882).

Adult male. Above, including scapulars, bright yellowish olive; wing-coverts uniform golden olive; bastard-wing and primary-coverts brownish black, spotted with yellowish grey; quills blackish brown, the primaries partially or entirely margined on the outer webs with golden olive, and both webs spotted with white; the secondaries having their outer webs golden olive, the inner webs spotted with white; shafts brownish black; the feathers of the rump yellowish olive, broadly tipped with light chrome-yellow; tail and tail-shafts black; forehead, crown, and occiput scarlet, the concealed portion of the feathers black, with leaden-grey bases; a narrow band of black at the base of the forehead, the latter, as well as the crown, being edged with black; a white stripe

running backwards from above the hind part of the eye; lores, all round the eye, and sides of the face dingy white; ear-coverts mouse-grey; a broad black malar stripe; hind neck greenish yellow; chin, throat, fore neck, side of the neck, and chest ochreous yellow, the latter with, at most, only a tinge of green; under surface of the body whitish, with a tinge of yellow, the feathers having an intermarginal line of olive-green; under tail-coverts whitish, with an intermarginal line and shaft-streak of blackish olive; the lower series greenish grey, the underside of the large outer tail-feather spotted with greyish upon both webs; under wing-coverts white, tinged with yellow and spotted with black; axillaries white, with a slight yellow tinge, and barred with blackish. Total length 12 inches, culmen 1·4, wing 5·3, tail 3·8, tarsus 1·1; toes (without claws)—outer anterior 0·8, outer posterior 0·8, inner anterior 0·57, inner posterior 0·4.

Young male. In general coloration and markings like the adult male, but duller; the forehead, crown, and occiput orange-scarlet, the feathers of the outer edge of the crown and occiput black, without red tips, and forming a well-marked stripe; the chin and throat ochreous, and the sides of the neck and the chest less yellow; under surface of the body more of a buffy brown, the feathers having dusky striations and a whitish central stripe, these being fainter than in the adult.

Nestling, male. In general coloration like the older, but still immature bird, though slightly duller, the chin, throat, sides of the neck, and the chest uniform; the remainder of the underparts nearly uniform, the dark markings found in the adult being almost obsolete, except on the sides of the body, flanks, and thighs, the whitish centres to the feathers being only a shade lighter than the ground-colour; outer edge of the forehead and crown, as well as the occiput, and probably the nape (damaged in this specimen), black; the feathers of the forehead and greater part of the crown tipped with orange-scarlet, this colour forming a conspicuous patch; tail uniform black.

Adult female. Differs from the adult male in having the forehead, crown, and occiput black. Total length 10·5 inches, culmen 1·22, wing 5, tail 3·7, tarsus 1·1.

Young female. Less golden green on the sides of the neck and the chest, which are uniform ; under surface of the body brownish white, more smoky brown on the thighs and under tail-coverts, the dark intermarginal line and shaft-streak on the feathers being more dusky, the centres of the feathers more or less white.

Malherbe, in his monograph, gives *Picus bengalensis* of Horsfield, in the 'Transactions' of the Linnean Society (xiii. p. 176), as a synonym of the present species ; but Horsfield's description does not answer to *G. vittatus*, and, further, the latter author gives it to be understood that his *P. bengalensis* is the same as that of Linnæus. Malherbe also remarks that the male of the present species figured by Reichenbach (Handb. Scans. Picinæ, pl. dxxi. fig. 4141) "is inexact, the striations on the underparts ascending too high," and he further adds, "In the figure of the female, No. 4142, the striations ascend as far as the throat, and one cannot doubt that it is the female of *G. striolatus*, of which the male is figured, No. 4143." In my opinion the figure of the male, fig. 4141, has been taken from *G. vittatus*, but carelessly done ; where the mistake occurs is in having varied the side of the neck with the same markings as on the breast and abdomen, instead of having left it uniform ; the figure of the female is evidently taken from *G. viridanus* of Blyth, and not from *G. striolatus*, as Malherbe says. The present species differs from *G. viridanus* in having the whole of the neck and the chest uniform ochreous yellow (sometimes with a green tinge) even in its first plumage. In *G. viridanus* the chest always has squamate markings, more or less distinct, similar to those on the under surface of the body, and the throat and sides of the neck are varied in a like manner, except in very old birds. Having examined Raffles's figures of the male and female of his *Picus affinis*, I think there can be little doubt that they must be referred to *G. vittatus*. The draughtsman has represented the birds as having the whole of the neck and the chest uniform, clearly showing that they are not *G. viridanus* ; but unfortunately there is so little of the breast and abdomen shown, that the artist has not thought it necessary

to indicate the elongated squamate markings on these parts (if they existed), which would prove it to be *G. vittatus*; but Raffles, in the description of his *P. affinis*, says it is "cinereous or slightly ferruginous below, mixed with brown on the abdomen," and this latter character shows that the bird he had before him was not uniform on the abdomen, as figured, and the author's expression, "mixed with brown below," may apply to the squamate markings on the underparts of *G. vittatus*.

The present species was formerly supposed to be confined to the island of Java, but more recent researches have considerably increased its range, and from specimens which have come under my notice I am of opinion that a still more extended range can be proved. There can be no doubt that *G. vittatus* occurs in Siam, as there are in the British Museum several specimens collected in that country by M. H. Mouhot, also other examples procured at Bangkok by Captain Conrad. Schomburgk (*Ibis*, 1864, p. 257) also observed it in Siam, and I have in my own collection a specimen obtained in the western part of that country by Herr Carl Bock.

This species also occurs in Cochin China, and, according to Dr. Tiraut (*Ois. Basse-Cochinchine*, p. 90, 1879), is tolerably common in the wooded provinces. The species found by Dr. Tiraut is the true *G. vittatus*, but its habitat, as stated by that author, viz. "Burmah, Tenasserim, and Malayan Peninsula, North of Pakehan," would lead one to believe that either he is not acquainted with the species (*G. viridanus*) inhabiting those countries, or that he does not recognize it as distinct from *G. vittatus*. The latter occurs, however, in the southern part of the Malayan Peninsula, as will be shown by an examination of the specimens in the Hume collection. In this there are several adult examples of *G. vittatus*, obtained by Mr. Davison at Jurrum and near Klang, Salangore, in the months of December, January, and February. These birds resemble examples from Siam, Cochin China, and Java. I have never seen a single specimen of *G. vittatus* from the Malayan Peninsula except those above mentioned, and it will be interesting to know whether, in the peninsula, the

species is confined to the neighbourhood of Jurrum and Klang, Salangore, or whether it extends from Siam, down the whole eastern half of the peninsula, and ascends the western half as far as the places where Mr. Davison procured his specimens. If this be the case, it is very remarkable that it has not been obtained in the more southerly portions of the peninsula. That this species inhabits Sumatra, is, I think, proved by the description and figures of Raffles's *Picus affinis*, which is evidently *G. vittatus*. It is probably rare in that island, as it has not been recorded by any subsequent writer. The species appears to be fairly common in Java, in which island the type was obtained. Malherbe, in his monograph, states that it is found in Borneo, but he gives no authority, and I agree with Count Salvadori that the statement requires confirmation. If it exists in the island, it is surprising that none of our well-known collectors have ever procured a specimen.

11. *GEVINUS VIRIDANUS*.

Picus squamatus (non Vig.), Blyth, J. A. S. B. x. p. 923 (1841), ♂ juv.

Picus viridanus, Blyth, J. A. S. B. xii. p. 1000 (1843); id. op. cit. 1844, app. p. 394.

Gecinus dimidiatus (non Temm.), Blyth, Cat. B. Mus. As. Soc. p. 58, no. 262 (1849), pt.; Reichenb. Handb. Scans. Picinæ, p. 350, no. 799, pl. dxxi. figs. 4141, 4142 (1854), pt.; Gould, P. Z. S. 1859, p. 150.

Gecinus viridanus, Gray, Gen. B. ii. p. 438 (1846); id. op. cit. iii. app. p. 21 (1849); Horsf. & Moore, Cat. B. Mus. E.I. Co. ii. p. 660, no. 961 (1856-58); Wald. P. Z. S. 1866, p. 539; Blyth, Ibis, 1870, p. 163; id. & Wald. B. Burm. p. 76 (1875); Salv. Cat. Strickl. Coll. p. 390, no. 1909 (1882); Oates, B. Brit. Burm. ii. p. 48 (1883).

Picus vittatus (pt.), Sundev. Consp. Av. Picin. p. 59 (1866); Giebel, Thes. Orn. iii. p. 186 (1876).

Gecinus vittatus (non Vieill.), Gray, List Picid. Brit. Mus. p. 76 (1868), pt.; id. Hand-l. B. ii. p. 192, no. 8683 (1870), pt.; Hume, Str. F. 1874, p. 471; id. & Oates, op. cit. 1875,

pp. 14, 68 ; Armstr. op. cit. 1876, p. 310 ; Hume, op. cit. 1877, p. 113 ; id. & Davison, op. cit. 1878, p. 136 ; Hume, op. cit. 1879, pp. 52, 160 ; Bingham, op. cit. 1880, p. 163 ; Oates, op. cit. x. 191 (1882).

Gecinus weberi, Müll. Orn. Ins. Salanga, p. 69 (1882).

Adult male. Above, including scapulars, bright yellowish olive ; wing-coverts slightly darker, the half-concealed portions of the median and greater series showing whitish bars ; bastard-wing and primary-coverts brownish black, with a few small white spots ; quills black, the outer webs of the primaries having angular spots or notches of white, those of the secondaries being more or less green, with indistinct lighter cross markings ; the inner webs, of all, notched or spotted with white ; a few of the inner quills having both webs yellowish olive ; shafts black ; rump chrome-yellow ; upper tail-coverts yellowish olive ; tail black, the feathers notched upon the base of both webs with pale brown or buffy white ; the two outermost having minute brown spots along the whole margin of the outer webs, the tip of the inner web being notched with the same ; shafts black, those of the outer feathers dark brown ; nasal plumes black ; forehead, crown, and occiput scarlet, the bases of the feathers dark leaden grey, nearly black on the occiput ; a black line on the edge of the forehead and crown ; lores whitish, minutely spotted with black ; a superciliary stripe running as far the occiput, space under the eye, and another stripe passing under the ear-coverts, white ; ear-coverts ashy grey ; and above white, finely streaked with blackish ; large malar patch black, the feathers edged with white ; hind neck and sides of the neck bright yellowish olive ; chin and upper throat very pale brown, shading into yellowish olive on the lower throat, fore neck, and chest, the feathers having a dusky or dusky olive intermarginal line and occasional shaft-streak, giving to the whole a striated appearance ; underparts brownish white, washed with green, and having similar markings, these being more dusky brown on the abdomen ; under tail-coverts whitish, with a broad deep olive intermarginal line and shaft-streak ; tibial plumes pale dusky brown, with lighter spots ; under wing-coverts and axillaries

white, tipped with yellow, the former barred with dusky brown, more olive at the tips, the latter barred with dusky brown without the olive tinge: "upper mandible and gonys of lower mandible blackish horny; rest of lower mandible pale yellow, the tip horn-black; eyelids slate-colour; irides dark red; feet dusky green; claws horny brown" (*E. W. Oates*). Total length 12 inches, culmen 1·6, wing 5·4, tail 3·9, tarsus 1·25; toes (without claws)—outer anterior 0·97, outer posterior 0·85, inner anterior 0·7, inner posterior 0·4.

Nestling, male. Differs from the adult male, which it resembles in general coloration and markings, in having the red on the head more of an orange-scarlet; the ear-coverts darker; the malar patch almost entirely black; the under surface of the body duller, and the white margins and central stripes to the feathers very much less distinct, and, except on the sides of the body, smoky in colour, the throat, chest, and breast having a more uniform appearance; the abdomen and thighs smoky brown, the latter having only a tinge of green.

Two young males from Kossoom, Malay Peninsula, May 14th and June 1st (*J. Darling, jun.*), in the Hume collection, are not of the same yellowish-olive colour as the nestlings described, but are of a rich golden olive above and on the wings, and the rump, instead of being pale chrome or lemon-yellow, is golden yellow, and in one specimen with a tinge of orange, the neck, chest, and breast are also of a rusty golden olive, thus showing that this rich coloration is not a characteristic of very old birds of this species. The specimen dated June 1st is the younger bird, and has the chin and throat nearly uniform, and the darker markings on the chest, breast, and abdomen are still very faint, the feathers on the sides of the body and the under tail-coverts being strongly marked. The other young male, dated May 14th, is evidently an older bird, and has the top of the head of a brighter and deeper vermilion-red; the chin is uniform, the throat lighter and more of a buffy white, covered with dusky spots, the white of the malar patch having a spotted character; the dark markings on the feathers of the underparts are of a different character from those of the adult; they are broader, more

rounded at the extremity, and the white central stripe is more expanded and drop-like at the tip. Another male from Kossoom, June 25th (*J. Darling, jun.*), also in the Hume collection, is evidently older than these two birds (although it is still young) and quite of a different character; the back and the wings are of the general olive-green colour; the throat is brownish white, with dusky stripe-like spots; sides of the neck brown; the fore neck and chest with only the faintest tinge of green, the feathers having light centres, forming an oval spot, with a dark shaft-streak; the red on the head of an orange-scarlet.

Adult female. Differs from the male in the absence of the red upon the crown and occiput, these parts being black, the feathers of the crown edged with ashy grey: "legs and feet dull green or dull brownish green; claws greenish horny or plumbeous; irides brown or reddish brown; eyelids plumbeous or dark grey; lower mandible greenish, or in some chrome-yellow, except a brown or greenish-brown streak from the angle of the gonys to the tip, and the tip; upper mandible blackish" (*Hume & Oates*). Total length 11.5 inches, culmen 1.45, wing 5.15, tail 4, tarsus 1.1.

Nestling, female (April 12th). Differs from the male nestling in having the forehead, crown, occiput, and nape black, the bases of the feathers grey and darker than in the adult female, the black on the tips of the feathers of the forehead and crown being somewhat rounded spots, and not stripe-like, as in older birds.

In the Hume collection there is a very curious variety of a female of the present species, from near Tavoy, May 29th (*W. Davison*). It is of a buff-colour, both above and below, with the usual markings; the rump and upper tail-coverts are bright olive-yellow, and a few of the feathers of the upper parts and the concealed portion of some of the secondaries are green; the feathers of the crown, occiput, and nape are brown, tipped with a paler brown; the quills and tail-feathers are brown, with the usual markings. It is quite clear that this is only an example of faded plumage, as is shown by the concealed portions of some of the secondary quills being

green. The entirely green feathers sparingly distributed over the upper parts are evidently new feathers. An adult male from Tavoy, March 16th (*W. Davison*), also in the same collection, has the feathers composing the malar stripe white, with very narrow black striations, and not, as is generally the case, black with narrow white striations. There is also in the Hume collection a very fine adult male of *G. viridanus* from Mergui, November 12th (*W. Davison*), which has the throat and chest more uniform than usual, but the feathers (those of the chest particularly) have faint dusky squamate markings and striations, and in this respect it differs from *G. vittatus*, in which species these parts are entirely uniform in both young and adult birds. In the last-mentioned example there are some red feathers crossing the side of the neck, and a trace of red upon a few of the upper wing-coverts, and likewise upon the feathers of the rump.

This species may be distinguished from *G. vittatus* by its striated chest and generally striated neck (in some specimens, however, the neck is more or less uniform), the latter species having the neck and chest always uniform and of an ochreous yellow instead of yellowish olive or golden olive. The Woodpecker now under notice differs much in its general coloration, some specimens having the upper parts vivid green, and the sides of the neck, the chest, and breast also green; in others the back is bright golden olive, this colour also extending on to the sides of the neck, and also on to the chest and breast. The habitat of this species is Pegu, Tenasserim, and, as far as is at present known, extends into the Malayan Peninsula as far as Salanga. Mr. Eugene Oates writes, "It is distributed over all parts of Pegu, and generally abundant." Mr. Armstrong considers it rare in Southern Pegu. It has been recorded from Schouay Goon, Salween River, by Lord Walden. Messrs. Hume and Davison inform us that this species is "extremely common throughout Tenasserim, except the hilly portions above 3500 feet elevation," and that "it does not ascend the hills north of Pahn-poon, where it is replaced by *G. nigrigenis*" (*erythropygius*). Capt. Bingham says it is one of the commonest Woodpeckers

in the Thoungyeen valley. *Gecinus weberi* of Müller, from the island of Salanga, of which I possess several specimens, is, to my mind, only the dark-green form of *G. viridanus*, and cannot be distinguished from some specimens from other localities. I cannot see why the Salanga bird has been separated from *G. viridanus*. I am inclined to think that Dr. Müller cannot have had a very large series of the latter species to compare with his Salanga specimens.

12. *GEVINUS STRIOLATUS*.

Brachylophus squamatus (non Vig.), Jerd. Madr. Journ. 1840, p. 213.

Picus striolatus, Blyth, J. A. S. B. 1843, xii. p. 1000; Jerd. Madr. Journ. xiii. pt. 2, p. 138 (1844); Sundev. Consp. Av. Picin. p. 60 (1866); Giebel, Thes. Orn. iii. p. 181 (1876).

Brachylophus xanthopygæus, Hodgs. Icon. ined. in Brit. Mus. nos. 147, 148 (♂ ♀); id. in Gray's Zool. Misc. p. 85 (1844).

Gecinus striolatus, Gray, Gen. B. ii. p. 439; id. Cat. Mamm. &c. Nepal, pres. Hodgs. p. 117 (1846); Blyth, Cat. B. Mus. As. Soc. p. 57, no. 261 (1849); Reichenb. Handb. Scans. Picinæ, p. 350, no. 800, pl. dxxxi. fig. 4143 (1854); Horsf. & Moore, Cat. B. Mus. E.I. Co. ii. p. 660, no. 962 (1856-58); Jerd. B. Ind. i. p. 287 (1862); Gray, Cat. Mamm. &c. Nepal, pres. Hodgs. 2nd ed. p. 63 (1863); id. List Pict. Brit. Mus. p. 77 (1868); id. Hand-l. B. ii. p. 192, no. 8685 (1870); Blanf. Ibis, 1870, p. 464; Elwes, tom. cit. p. 527; Jerd. op. cit. 1872, p. 9; Legge, Str. F. 1873, p. 488; Ball, op. cit. 1874, p. 391; Legge, Ibis, 1875, p. 412; Blyth & Wald. B. Burm. p. 76 (1875); Hume & Oates, Str. F. 1875, p. 68; Butler, tom. cit. p. 458; Godwin-Austen, J. A. S. B. 1876, p. 70; Inglis, Str. F. 1877, p. 26; Fairbank, tom. cit. p. 396; Ball, tom. cit. p. 413; Anders. Yunnan Exped. i. p. 585 (1878), pt. ; Hume & Davison, Str. F. 1878, vi. p. 136; Davids. & Wend. op. cit. vii. p. 78 (1878); Ball, tom. cit. p. 206; Cripps, tom. cit. p. 262; Godwin-Austen, J. A. S. B. 1878, p. 14; Hume, Str. F. 1879, p. 87;

Scully, tom. cit. pp. 247, 368; Butler, B. Sind &c. and Mount Aboo, p. 19 (1879); id. B. S. Bomb. Pres. p. 24 (1880); id. Str. F. 1880, p. 386; Legge, B. Ceyl. p. 194 (1880); Oates, Str. F. x. p. 191 (1882); W. Davison, tom. cit. p. 355; Salv. Cat. Strickl. Coll. p. 390, no. 1911 (1882); Oates, B. Brit. Burm. ii. p. 49 (1883).

Gecinus xanthopygius, Bp. Consp. Gen. Av. i. p. 127 (1850); id. Consp. Volucr. Zygod. p. 10 (1854); Reichenb. Handb. Scans. Picinæ, p. 350, no. 802 (1854).

Chloropicus striolatus, Malh. Monogr. Picid. ii. p. 134, pl. lxxvii. figs. 1 & 2 (1862).

Adult male. Above bright yellowish olive, the feathers margined with brighter yellow; wing-coverts uniform and darker; bastard-wing and primary-coverts dusky brown, the former notched with white, the latter edged externally with green and spotted with dingy white; quills dusky brown, the primaries having irregular white markings or bars upon the outer webs, those of the secondaries being partially or entirely yellowish olive, spotted or narrowly barred with dingy whitish; the inner webs notched and spotted with white; a few of the inner quills entirely yellowish olive; shafts brownish black; rump and upper tail-coverts green, the feathers margined with deep chrome-yellow; tail blackish brown, the basal portion of the feathers margined with green and faintly notched with light dusky brown; penultimate feather barred to the tip, and the dwarf one tipped with green; shafts black at the tip, brown at the base; nasal plumes dull black; feathers on the base of the forehead dusky, edged with yellowish buff; crown and occiput scarlet, the bases of the feathers leaden grey, those on the edge of the crown being black; a white superciliary stripe running on to the nape, and becoming streaked with dusky; lores, and a stripe under the ear-coverts, white; ear-coverts dusky brown; cheeks whitish, striped with dark olive and yellowish; rest of the face whitish streaked with dusky brown; side of the neck and hind neck yellowish olive, striped with darker olive; chin, throat, and fore neck yellow, streaked with olive; the bases of the feathers white; entire under surface yellowish white, the

feathers having an intermarginal line and, occasionally, a narrow shaft-streak of deep-olive ; chest strongly washed with yellow ; tibial plumes pale brown ; under tail-coverts white, with a subterminal V-shaped brown marking, and lower down either a broad shaft-streak or a narrower V-shaped brown marking ; under wing-coverts white, washed with sulphur-yellow, and having dusky barring and V-shaped markings of deep olive ; axillaries white, tipped with yellow and having V-shaped dusky brown markings : “in December, bill plumbeous dusky, the basal three fourths of the lower mandible yellowish-green horny ; irides carmine-red ; feet dingy plumbeous” (*J. Scully*). Total length 11 inches, culmen 1·35, wing 4·9, tail 3·3, tarsus 1 ; toes (without claws) —outer anterior 0·77, outer posterior 0·68, inner anterior 0·55, inner posterior 0·4.

Young male. Differs from the adult male in being of a slightly darker shade of green above, and in having the red on the forehead, crown, and occiput more of an orange-scarlet, the occipital feathers having a patch or spot of black between the red tip and the grey base ; the outer edge of the forehead and crown being black, and forming a conspicuous stripe ; nape black, a few of the feathers assuming orange or scarlet tips ; the ear-coverts darker, and the cheeks striped with dusky black ; under surface of the body slightly duller in colour, the green being confined almost entirely to the throat and chest.

Adult female. Differs from the male in having the forehead, crown, and occiput black, the feathers of the forehead and crown edged with ashy brown, and having a striped appearance ; the upper parts greener ; rump and margins of the upper tail-coverts paler chrome-yellow ; the stripes on the cheeks more dusky, and the chin and throat more buffy brown ; the dark intermarginal lines on the feathers of the underparts fainter and the shaft-streaks broader and more constant : “iris dark red ; legs dusky blue ; upper mandible almost black, lower dusky horny ; June 15th” (*S. B. Fairbank*). Total length 11 inches, culmen 1·27, wing 4·9, tail 3·3, tarsus 1.

Under the title of *Gecin*us *xanthopygius*, Reichenbach (Handb. Scans. Picinæ, p. 350, no. 802) describes a bird, said to be from Java, which he considers as distinct from *G. vittatus* of Vieillot, and referable to the species described by Hodgson as *Brachylophus xanthopygæus*. Now, it is certain that the latter name was bestowed by Hodgson upon a bird obtained in Nepal, and no one who has seen the unpublished coloured drawings by the latter author, now contained in the library of the Natural History Department of the British Museum, can have any doubt as to the identity of Hodgson's *B. xanthopygæus* with *G. striolatus* of Blyth. Reichenbach's description of his *G. xanthopygius* is evidently taken from the latter species, as the characters given are not at all such as would lead one to believe that they belonged to the Javan bird, *G. vittatus*. I should be more inclined to think that the habitat stated by Reichenbach is an error, than that *G. striolatus* ranges into Java.

G. striolatus bears a striking resemblance to *G. viridanus*, but may be distinguished from the latter by the malar patch being greyish white, narrowly striped with black or dusky olive, instead of intense black, more or less striped with pure white, as in *G. viridanus*, also by having a very conspicuous white superciliary stripe, and a second white stripe under the ear-coverts; by its brilliant yellow rump and upper tail-coverts, and its more barred tail, the penultimate feather being conspicuously barred along its whole length; and, further, by the soft silky character of its plumage. The same differences in coloration of plumage exist in this species as in *G. viridanus*, varying on the upper parts from vivid green to golden olive, the rump in some specimens being bright chrome-yellow, in others orange; this applies to both sexes. Burmese examples exceed in size those from India. In the former the average length of wing is 5·4 inches, Indian birds having the average length of wing 5 inches. Malabar specimens run smaller than those from the Himalayas. This Woodpecker has a very wide range, being found in the Himalayas, Central and Southern India, Ceylon, Assam, Cachar, and Burmah, and I have reason to believe

that it also occurs in Siam. Jerdon (Ibis, 1872, p. 9) writes, "This Woodpecker is very common in the sub-Himalayan region, from Kumaon to Kashmir, and also in all the low jungles of the north-west provinces and the Punjab." In the British Museum there are numerous examples collected by Hodgson in Nepal. Dr. Scully, in his Contributions to the Ornithology of that country (Str. F. 1879, p. 248), observes that he found it very common in the sâl forest from Bichiakoh to Semrabasa, in December. Mr. Cripps includes this species in his 'List of the Birds of Furreedpore, Eastern Bengal'; and, according to Mr. Ball, it is found in the hilly region which extends from the Rajmehal Hills to the Godaveri Valley. Colonel Butler, in his 'Catalogue of the Birds of Mount Aboo,' &c., 1879, p. 19, says it is not very common on Mount Aboo; and the same author (Str. F. 1875, p. 458) states that it is not uncommon in the jungles at the foot of the Aravalli range, to which Mr. Hume appends the following note:—"but occurs nowhere else, as far as we know, throughout the whole region." Messrs. Davidson and Wenden, in their "Avifauna of the Deccan" (Str. F. vii. p. 78, 1878), introduce the following note:—"A Green Woodpecker, probably this one (*G. striolatus*), observed near the top of the Bhore Ghât in September, *not thoroughly identified*." Colonel Butler, in his 'Catalogue of the Birds of the Southern Portion of the Bombay Presidency,' as well as in 'Stray Feathers,' 1880, p. 386, adds the following information regarding the species:—"Rare, obtained by Mr. Laird in the jungles west of Belgaum, and is probably the bird referred to by Mr. Davidson as having been observed on the Bhore Ghât, Kolaba district, in which case it probably occurs sparingly along the whole of the Sahyadri range." Mr. Ball writes, "The small Green Woodpecker is rather rare in Chota Nagpur, and, so far as my collections go, confined to the western parts. In the Satpura hills it was, I think, more abundant." In his 'Birds of India,' Jerdon states, "I have seen it in Malabar, in low jungles close to the sea-coast, in bushy ground on the Neilgherries tolerably abundant, as also on the Eastern Ghâts." Mr. W.

Davison, in writing of this species, observes, "Sparingly spread through the Wynaad, Mysore, and the Nilghiris; a few pairs are always to be found in the forests about Ootacamund, but it is rarer at that elevation than lower down." Fairbank obtained it on the Palani Hills at Perinur. Of the range of this species in Ceylon an interesting account is given by Col. Legge in his admirable work on the birds of that island. This species is, according to Mr. Inglis, "very common in North-eastern Cachar during the cold winter months, and also often seen in the rains." I am inclined to think that this species also ranges into Assam, as there is in the British Museum a specimen collected by McClelland in that country, which I take to be *G. striolatus*. Mr. Oates, in treating of this species (B. Brit. Burm. ii. p. 50), writes, "As far as I have observed it in British Burmah, seems confined to the Prome and Thayetmyo districts, where it is very abundant." Mr. Blandford, however, obtained it in the Irrawaddy delta, and Lord Tweeddale received it from Tonghoo. I have every reason to believe that this species also occurs in Siam, as the British Museum collection contains a specimen obtained at Pitchaburree by M. Pierre in August 1868, which, I think, must be referred to the present species. It is a young bird, but certainly neither *G. vittatus* nor *G. viridanus*, judging by its barred tail, and is unlike *G. occipitalis* in having the underparts striated, though faintly, and I hardly think I do wrong in considering it to be the young of *G. striolatus*.

13. *GEVINUS PUNICEUS*.

Picus puniceus, Horsf. Trans. Linn. Soc. xiii. pt. 1, p. 176 (1821); Raffl. tom. cit. pt. 2, p. 289 (1822); Lath. Hist. B. iii. p. 362 (1822); Temm. Pl. Col. cccxxiii. (1827); Wagl. (pt.) Syst. Av. Picus, sp. 96 (1827); id. Isis, 1829, p. 518; Vig. Mem. Raffl. p. 668 (1830); Less. Traité, i. p. 222 (1831); Sundev. Conspectus Av. Picin. p. 58 (1866); Giebel, Thes. Orn. iii. 175 (1876).

Picus gularis, Wagl. Syst. Av. Add. Picus, sp. no. 6 (nec no. 89), ♀ (1827).

Brachylophus puniceus, Strickl. P. Z. S. 1841, p. 31; Bp. Consp. Volucr. Zygod. p. 10 (1854).

Gecinus puniceus, Gray, Gen. B. ii. p. 439 (1846); Blyth, Cat. B. Mus. As. Soc. p. 59, no. 270 (1849); Wall. Ann. & Mag. Nat. Hist. xv. p. 96 (1855); Gray, List Picid. Brit. Mus. p. 77 (1868); id. Hand-l. B. ii. p. 192, no. 8687 (1870).

Venilia puniceus, Bp. Consp. Gen. Av. i. p. 128 (1850).

Venilia punicea, Reichenb. Handb. Scans. Picinæ, p. 358, no. 876, pl. dxxxviii. figs. 4176, 77, ♂ ♀ ad. (1854); Horsf. & Moore, Cat. B. Mus. E.I. Co. ii. p. 664, no. 968 (1856-58); Moore, P. Z. S. 1859, p. 456.

Chloropicus puniceus, Malh. Monogr. Picid. ii. p. 110, pl. lxxiv. figs. 5, 6, ♂ ♀ (1862).

Chrysophlegma puniceus, Jerd. B. Ind. i. p. 291 (1862); Blyth & Wald. B. Burm. p. 77 (1875); Oates, B. Brit. Burm. ii. p. 44 (1883).

Callolophus puniceus, Salvad. Ucc. Born. p. 49 (1874); Sharpe, P. Z. S. 1875, p. 103; id. Ibis, 1876, p. 36; Hume & Davison, Str. F. vi. p. 139 (1878); Hume, op. cit. 1879, p. 88; Sharpe, Ibis, 1879, p. 242; id. P. Z. S. 1881, p. 792; Guillemard, op. cit. 1885, p. 405; Büttikofer, Notes Leyd. Mus. ix. p. 23 (1887).

Chrysophlegma puniceum, Salvad. Ann. Mus. Civ. Stor. Nat. Genova, ser. 2, iv. pp. 519, 529 (1887).

Adult male. Above, including scapulars, yellowish olive, the feathers of the lower back tipped with chrome-yellow; rump and upper tail-coverts brighter than the back, especially the former, which is nearly uniform pale chrome-yellow; wing-coverts bright Indian-red, the margins of all, particularly the lesser series, being brilliant crimson; bastard-wing brownish black, the feathers tipped with red, and the edge of the wing spotted with buffy white; primary-coverts brownish black, externally margined with bright red; quills brownish black, the primaries having the outer webs red at the base, the remaining portion being washed with greenish, the inner webs spotted with white at the base, these spots becoming confluent and forming a white margin to the fea-

thers; the secondaries having the whole of the outer webs bright red, the inner webs spotted with white, some of the innermost feathers being tipped with green, shafts black; tail and shafts black; nasal plumes and stripe in front of the eye black; forehead, crown, and occipital crest bright crimson, the tips of the feathers being of this colour, the middle portion being dusky black and the bases grey; upon the side of the occiput a crimson patch uniting with the red occiput, but not running down below the ear-coverts; a bright pale golden yellow nuchal crest; sides of the face and neck dull green; a broad crimson malar patch, the bases of the feathers dusky black; chin and upper throat dull buffy white, washed with greenish; from the fore neck to the abdomen, inclusive, dull green, the flanks and thighs barred and spotted with yellow or yellowish white, the partly concealed portion of the feathers of the latter barred with dusky black and pure white; tibial plumes dingy buff; under tail-coverts dusky green, a few of the upper feathers spotted with white upon both webs, and having a barred appearance; under wing-coverts dusky, washed with olive on the edge of the wing, the whole spotted with white or yellowish; axillaries white, tipped with yellow and barred with dusky black: "iris crimson; orbital skin greenish grey; lower mandible and edges of upper mandible at gape dark greenish yellow; upper mandible black; legs and feet pale green, claws greenish horny" (*IV. Davison*). Total length 10·75 inches, culmen 1·35, wing 5·1, tail 3·5, tarsus 0·87; toes (without claws)—outer anterior 0·7, outer posterior 0·62, inner anterior 0·55, inner posterior 0·27.

Young male. Differs from the adult male in having the chin and throat pale drab-brown; the sides of the face and neck pale dusky greenish; under surface of the body dusky brown, with a very slight green tinge, the breast sparingly crossed by pale brown and dusky lines; the flanks, thighs, and abdomen crossed by similar dusky lines, but also varied with rounded spots of white; under tail-coverts dusky brown, barred with white; the red on the wings duller.

Adult female. May be distinguished from the adult male by the absence of the red malar patch, the cheeks being of

the same colour as the rest of the face; chin and throat greener, some of the feathers between the occiput and the posterior part of the ear-coverts being tipped with red; under surface of the body rather darker, and the light markings on the flanks and thighs fewer; the under tail-coverts unspotted; the feathers of the entire back edged with yellow: "iris crimson; orbital skin bright plumbeous blue; legs and feet pale dirty green; lower mandible and base of upper mandible chrome-yellow; upper mandible black" (*W. Davison*). Total length 11 inches, culmen 1.15, wing 5.25, tail 3.65, tarsus 0.9.

Young female. A specimen in the British Museum differs from a young male in the same collection in having the underparts uniform, except the flanks, thighs, and under tail-coverts, which have a few brownish-white spots, the concealed feathers on the sides of the body being white. It also wants the red malar stripe, the cheeks being of the same colour as the rest of the face; the top of the head and the occiput are dusky olive, only a few of the feathers being tipped with crimson.

Examples of this species from Malacca, Sumatra, and Borneo have the orbital region less dusky and the sides of the face and neck of a lighter green than specimens from Java, but they possess no specific distinction.

The present species has a wide range. In Tenasserim it is confined to the southern district of the province, where Mr. Davison procured it, and says it is not rare. It is also found in the Malayan peninsula, whence the Hume collection contains a fine series, obtained by Mr. Davison. Raffles includes it in his 'Birds of Sumatra,' and the collection recently made by Dr. C. Klaesi in the highlands of Padang, in the western part of the island, contains several examples. (*Cf.* Büttikofer, *Notes Leyd. Mus.* ix. p. 23 (1887).) This species has also been obtained at Siboga, as well as in the island of Nias, West Sumatra, by Signor Elio Modigliani (*Salvad. Ann. Mus. Civ. Stor. Nat. Genova*, ser. 2, iv. pp. 519 & 529, 1887). It is likewise found in Java, in which island the type specimen was procured by Horsfield. In Borneo it appears to be generally distributed. Mr. Pryer has sent to this country

examples from Sandakan, and the (late) Hon. Hugh Low, as well as Mr. Treacher, obtained it in Lumbidan. This species has also been recorded from Sarawak by the Marquis Doria, Dr. Beccari, and Mr. Everett, and Dr. Platen found it at Jambusan. In the south of the island it has been obtained at Banjermassing by Schierbrand. Mr. Davison, in 'Stray Feathers' (vi. p. 139, 1878), gives some very interesting notes on the habits of the present species; he writes:—"This bird has some rather anomalous habits for a Woodpecker, and it has, besides, a very peculiar note, not in the least resembling any of the varied notes of other Woodpeckers. It inhabits the evergreen forests, occasionally coming into *tounyahs* or clearings. It has a habit of working its way to the very top of some high dry tree, and remaining there for half an hour or more sometimes, uttering, at short intervals, its peculiar note. In the dusk of the evening, when other Woodpeckers cease to be heard, it gets very noisy, and then may be heard calling in many directions, showing that it is not very uncommon; it is, however, more often heard than seen. It almost always, I may remark, goes about singly, and I have never yet seen it descend to, or feed upon, the ground, as *Gecinus* and *Chrysophlegma* so constantly do."

14. *GEVINUS CHLORIGASTER*.

Picus mentalis (non Temm.), Jerd. Madr. Journ. 1840, p. 214.

Picus chlorigaster, Jerd. Madr. Journ. 1844, p. 138. (Aug. 1845)

Chloropicus xanthoderus, Malh. Rev. Zool. 1815, p. 402; id. Monogr. Picid. ii. p. 114, pl. lxxv. figs. 1, 2 (1862).

Gecinus chlorigaster, Blyth, J. A. S. B. 1846, p. 16.

Gecinus chlorophanes, Blyth, Cat. B. Mus. As. Soc. p. 59, no. 267 (1849).

Gecinus chlorophaus, Gray, Gen. B. iii. App. p. 21 (1849).

Chrysophlegma chlorolophus (non Vieill.), Bp. Consp. Gen. Av. i. p. 128 (1850).

Chrysophlegma xanthoderus, Bp. Consp. Volucr. Zygod. p. 10 (1854); Legge, B. Ceylon, p. 197 (1880); Salvin, Cat. Strickl. Coll. p. 391, no. 1915 (1882).

Venilia chlorophanes, Reichenb. Handb. Scans. Picinæ, p. 359, no. 829, pl. dxxix. figs. 4182, 83, females (1854).

Chrysophlegma chlorophanes, Jerd. B. Ind. i. p. 290 (1862); Legge, Ibis, 1874, p. 15; id. op. cit. 1875, p. 283; Hume, Str. F. 1876, p. 390; Fairbank, op. cit. 1877, p. 396.

Picus xanthoderus, Sundev. Consp. Av. Picin. p. 58 (1866); Giebel, Thes. Orn. iii. p. 186 (1876).

Gecinus xanthoderus, Gray, List Pcid. Brit. Mus. p. 75 (1868); id. Hand-l. B. ii. p. 191, no. 8681 (1870).

Chrysophlegma chlorigaster, Hume, Str. F. vii. p. 517 (1878); Butler, Cat. B. S. Bomb. Presid. p. 24 (1880); id. Str. F. 1880, p. 386; Davison, op. cit. 1882, p. 298; id. op. cit. x. p. 355 (1883).

Adult male. Above, including scapulars, yellowish olive; wing-coverts rich golden olive, the lesser series varied with reddish, the median and greater coverts having the inner portion of the outer webs Indian red; bastard-wing and primary-coverts dusky brown, the outer webs more or less golden olive; quills brown, the primaries having the basal portion of the outer webs Indian red, margined with yellowish olive, the remaining part with a few buffy-white lines down the margin; the outer webs of the secondaries red, slightly margined and tipped with duller yellowish olive; inner webs of all spotted with white, the inner quills having a large amount of bright golden olive upon both webs; shafts brown; rump and upper tail-coverts bright yellowish olive, a few of the latter margined at the tip with dull red; tail brownish black, the central pair of feathers rather darker, and margined at the base with dull yellowish olive; dwarf feather dusky brown, tipped with greenish; shafts black; nasal plumes black; forehead, crown, and occipital crest crimson, the tips of the feathers being of this colour, the remaining portion deep olive, and the bases grey; nuchal crest bright chrome-yellow; lores dull whitish, with a black line separating them from the forehead; sides of the face and neck dingy olive; cheek-patch crimson; a narrow white line from the gape to the back of the ear-coverts, and another (but less distinct) from above the posterior half of the eye, and run-

ning above the ear-coverts; chin and throat dingy buffy white, the feathers tipped with dull greenish; chest and breast dull olive, the sides of the latter barred with whitish; the remainder of the underparts dull olive, barred and spotted with whitish, more uniform on the middle of the abdomen; flanks and thighs broadly barred with yellowish white; under tail-coverts dusky olive, tipped and barred with dull white; under wing-coverts yellowish white, margined and barred with olive, and varied with dusky brown; axillaries white, tipped with yellow and barred with dusky brown: "iris sombre red or brownish red; bill blackish, with the sides of the lower mandible and margin of the upper, next the gape, yellow; legs and feet olive-greenish or dusky sap-green" (*W. V. Legge*). Total length 9·5 inches, culmen 1·1, wing 4·65, tail 3·25, tarsus 0·85; toes (without claws)—outer anterior 0·68, outer posterior 0·63, inner anterior 0·55, inner posterior 0·28.

Young male (March 17th). Resembles the adult male in general coloration and markings, but has the face and neck more dusky, the chin and throat spotted with white, the underparts are spotted with white, even on the flanks and thighs, whereas in the adult bird these are barred with white, and the white on many of the feathers of the underparts has also a barred character rather than a spotted one. In this young male the red is appearing on the cheek-feathers. A young male from "between Goodalore and Nellacotta, Wynaad, March 28th" (*W. Davison*), also in the Hume collection, has the soft parts as follows:—"irides wood-brown; lower mandible from base to angle of gonys, and gape dull yellow; rest of bill dull black; legs and feet dirty dull green; claws plumbeous green."

Adult female. Differs from the adult male in the absence of crimson on the forehead and crown, these parts being blackish olive, also in being without the crimson cheek-patch; the back of a lighter green, and the upper tail-coverts without a trace of red. Total length 9 inches, culmen 0·95, wing 4·65, tail 3·15, tarsus 0·85.

The Hume collection contains two very interesting spe-

cimens from Cheerud, Shada, Kandeish, March 19th and 20th (*J. Davidson*), marked male and female, in which the upper parts have every appearance of being those of extremely old birds, the male having the wing-coverts, scapulars, and upper tail-coverts tipped with red, the scapulars being also spotted with yellowish white; the face and neck very dusky, and each cheek with only about one red feather; the underparts transversely varied with dusky, having more of a barred than a spotted appearance, and with the slightest possible greenish tinge; the forehead and fore part of the crown green, without a trace of red; but the skin being badly prepared, it is difficult to discover whether the hinder part of the crown is red, or whether this colour is confined to the occipital feathers. The female is like the male, the scapulars and even some of the wing-coverts being spotted; the face, neck, and underparts greener, the latter having more of a spotted than a barred appearance. The small amount of red on the cheeks of the male (if a male) would imply youth, while other characters are in favour of this specimen being adult. The reason I doubt its being a male is, that in every unmistakably young male which has come under my notice, the whole of the feathers of the forehead, crown, and occiput are tipped with red. If the specimen was not sexed, the appearance of red upon the cheeks may have misled the collector, as a red feather might appear on the cheeks even of a female. In my own collection are a male and female from the Nilghiris, in which the scapulars have a few white spots, and these specimens are certainly not very young.

Dr. Jerdon's title of *chlorigaster* for the present species claims priority over *xanthoderus* of Malherbe. The former name was bestowed upon it in the Madras Journal for December 1844, p. 138, although it did not appear until February 1845; *xanthoderus* of Malherbe being only a MS. name until published towards the end of 1845 in the 'Revue Zoologique,' p. 402. The present species has not an extended range, being found only in the southern portion of India (as high as Kandeish on the west) and in Ceylon. As already remarked, specimens were obtained by Mr.

Davidson at Cheerud, Shada, Kandeish. Captain Butler says it is not uncommon in the forests south-west of Belgaum. According to Dr. Jerdon, "It is found in the forests of Malabar, more especially far south. It frequents thick forest jungle." Mr. Davison (Str. F. x. p. 355, 1883) states:—"This species does not ascend the plateau of the Nilghiris, but occurs on the slopes as far up as 5000 feet. It is also spread through the Wynaad and Mysore, but is nowhere very common. It occasionally, like the *Gecini*, descends to the ground." The Rev. S. B. Fairbank obtained it near Periur, on the Palani Hills, and it has been observed by Mr. Bourdillon on the hills of Travancore. In Ceylon (according to Col. Legge) "the Ground Woodpecker is found throughout most of the low country, except the northern parts, where, as far as I am able to ascertain from report and my own observation, it has not yet been detected. As it is, however, nowhere very abundant, and is of a retiring nature, it may have been passed over in the north of the Vanni." It is remarkable that this species has not been observed in the northern part of the island, frequented by *Chrysocolaptes stricklandi*, a region apparently suited to Woodpeckers, and nearest to the peninsula of India, a habitat of the species. It is very probable, as Col. Legge suggests, that this bird has been overlooked in the north, and will eventually be found to have a more extended range.

15. *GEVINUS CHLOROLOPHUS*.

Picus chlorolophus, Vieill. N. Dict. Hist. Nat. xxvi. p. 78 (1818); Bonn. & Vieill. Enc. Méth. p. 1309 (1823); Sundev. Consp. Av. Picin. p. 58 (1866); Giebel, Thes. Orn. iii. p. 149 (1876).

Yellow-necked Woodpecker, Lath. Hist. B. iii. p. 365 (1822).

Picus chlorolophos, Wagl. Syst. Av. *Picus*, sp. 69 (1827).

Picus chloropus, Drap. Dict. Class. Hist. Nat. xiii. p. 500 (1828).

Picus nepalensis, Gray, Hardw. Ill. Ind. Zool. i. pl. xxxi. fig. 1 (1830-32); McClell. P. Z. S. 1839, p. 165; Blyth, J. A. S. B. xii. p. 1003 (1843); id. op. cit. xiv. p. 191 (1845).

Dryotomus sericeocollis, Hodgs. Icon. ined. in Brit. Mus. nos. 145, 146 (♂ ♀).

Brachylophus sericollis, Hodgs. in Gray's Zool. Misc. 1844, p. 85.

Gecinus nipalensis, Gray, Gen. B. ii. p. 438 (1846).

Gecinus xanthoderus, Gray, Cat. Mamm. &c. Nepal, pres. Hodgs. p. 116 (1846).

Chloropicus chlorolophus, Malh. N. Classif., Mém. Acad. Metz, 1848-49, p. 350.

Gecinus chloropus, Blyth, Cat. B. Mus. As. Soc. p. 58, no. 266 (1849); Tytler, Ann. Nat. Hist. xiii. p. 367 (1854); Blyth, J. A. S. B. 1863, p. 75.

Chrysophlegma chlorolophus, Bp. Consp. Gen. Av. i. p. 128 (1850); id. Consp. Voluer. Zygod. p. 10 (1854); Horsf. & Moore, Cat. B. Mus. E.I. Co. ii. p. 662, no. 966 (1856-58); Jerd. B. Ind. i. p. 289 (1862); Gray, Cat. Mamm. &c. Nepal, pres. Hodgs. 2nd ed. p. 63 (1863); Godwin-Austen, J. A. S. B. 1870, p. 97; Hume, Str. F. 1874, p. 472; Blyth & Wald. B. Burm. p. 76 (1875); Hume & Oates, Str. F. 1875, p. 71; Godwin-Austen, J. A. S. B. 1876, p. 70; Inglis, Str. F. 1877, p. 26; Hume & Davison, op. cit. vi. p. 138 (1878); Ball, op. cit. vii. p. 206 (1878); Scully, op. cit. 1879, pp. 249, 365; Bingham, op. cit. 1880, p. 164; Oates, op. cit. 1882, p. 191; Salvin, Cat. Strickl. Coll. p. 391, no. 1914 (1882); Oates, B. Brit. Burm. ii. p. 45 (1883).

Chrysophlegma chlorolophum, Reichenb. Handb. Scans. Picinæ, p. 357, no. 825, pl. dxxvii. figs. 4173, 74, ♂ ♀ ad. (1854).

Chloropicus chlorolophus, Malh. Monogr. Picid. ii. p. 108, pl. lxxiv. figs. 1, 2, 3 (1862).

Gecinus chlorolophus, Gray, List Picid. Brit. Mus. p. 74 (1868); id. Hand-l. B. ii. p. 191, no. 8680 (1870); Sharpe, P. Z. S. 1887, p. 443.

Adult male. Above, including scapulars, rump, upper tail-coverts, and wing-coverts, uniform vivid green; bastard-wing blackish brown, margined externally with vivid green, the edge of the wing more dusky olive varied with white; primary-coverts blackish brown, the outer webs yellowish

olive, redder near the shafts; quills brown, the outer webs of the outer primaries spotted with whitish, and having the basal portion dull red margined with olive golden, the innermost primaries having almost the whole of the outer webs red, tipped with golden green; outer webs of the secondaries vivid green, the inner portion of the webs more or less red; inner webs of all spotted with white, the tips of the innermost being bright green; shafts brown; tail brownish black, the two central feathers having both webs margined at the base with dull olive, the next feathers having only the outer webs so margined; dwarf feather blackish brown, tipped with greenish; shafts black; nasal plumes black; forehead, edge of the crown, and occipital crest crimson, the tips of the feathers being of this colour; crown and middle portion of the occipital feathers olive, margined with a yellower shade, the bases leaden grey; lores yellowish white; between the eye and nostril a black line; side of the face olive, streaked with a lighter shade; from behind the eye a narrow white line passing behind the ear-coverts, and joining another from the lores, running under the ear-coverts; cheek-patch crimson, with pinkish cross markings on a dusky ground; nuchal crest bright golden yellow; chin and throat dull buffy white, barred with dingy olive; side of the neck, chest, and breast uniform dull olive; remainder of the underparts, including the flanks and thighs, dull yellowish white, barred with dingy olive, the barring less distinct on the abdomen; under tail-coverts dull white, barred with dingy olive, and tipped with a yellower shade; under wing-coverts yellowish white barred with olive; axillaries white with yellow tips, and barred with olive: "bill greenish yellow horny; culmen and tip dark plumbeous; irides carmine red" (*J. Scully*). Total length 10 inches, culmen 1.27, wing 5.25, tail 3.75, tarsus 0.9; toes (without claws)—outer anterior 0.73, outer posterior 0.65, inner anterior 0.53, inner posterior 0.35.

Young male. Resembles the adult male, but is altogether less brilliant in colour; the crown of a duller olive; the crimson on the forehead, occiput and cheeks less spread over

these parts; throat, chest and breast, more of a dusky brown with an olive tinge; the underparts whiter, and the dark barring more dusky, the whitish markings on the outer webs of the outermost primaries being larger; under wing-coverts without a trace of yellow. Dr. Scully gives the soft parts of the immature male, in August and September, as follows:—"Bill greenish horny, dusky above and at the tip; orbital skin slaty plumbeous; irides crimson; feet and claws plumbeous greenish."

Adult female. Differs from the adult male in the absence of the crimson on the forehead and edge of the crown, and in this colour not spreading over the entire occipital crest, the forehead, crown, and central feathers of the occiput being bright yellowish olive, only a few of the latter having crimson tips; the crimson malar stripe also wanting, the cheeks being olive varied with yellowish white; the yellow nuchal crest scarcely so brilliant: "bill yellowish green horny; culmen and tip dark plumbeous; irides carmine red; orbital skin bluish plumbeous; tarsi dingy green; toes greenish leaden; claws grey horny" (*J. Scully*). Total length 10·5 inches, culmen 1·15, wing 5·05, tail 3·55, tarsus 0·9.

The white spotting on the outer webs of the primaries is very inconstant, and cannot be regarded as a character. In adult examples from various localities these markings exist, while in equally adult birds from the same localities they are wanting. In a fully adult male and in a young male now before me the spots are almost equally developed. Burmese specimens have the outer webs of the primaries generally unspotted, but I have in my collection an example, obtained by Major Houghton, in which they are spotted along their whole length. I have recently examined a male specimen of the present species from the mountains near Perak (*L. Wray*), the most southerly locality whence it has been procured. It is a very dark bird, and has the whole of the underparts of a blackish olive, and all below the chest is covered by bar-like spots of pure white. The colour is much darker than in typical specimens, and, but for the distribu-

tion of red on the head, resembles rather *G. chlorigaster*. I have in my collection an example from Assam, very similar to the Perak bird.

This species is common in Nepal and the South-east Himalayas, ranging into Bengal and Orissa, and to the east extending into Cachar and Assam. To the south it is found throughout the Burmese Empire; in Tenasserim, and also in the Malayan peninsula as far as Perak. Dr. Scully (Str. F. 1879, p. 249), in writing on this species, observes, "It is tolerably common in the Nepal Valley, where it breeds. It is usually found in tree forests, about the lower parts of the surrounding hills, but occasionally visits the wooded knolls in the central part of the valley. It is not uncommon in the lower hills, Dun and Sâl forest in winter." Jerdon states that it is rare in Lower Bengal, and found as far as Cuttack, and that it may probably occur in the Midnapore jungles. Mr. Ball (Str. F. vii. p. 206, 1878), in his "List of Birds found in the region which extends from the Rajmehal Hills to the Godaveri Valley," gives as localities Orissa, south of Mahanadi and Lohardugga. I have in my collection specimens from north-eastern Cachar, procured by Mr. J. Inglis, who says it is rather rare. In the Hume collection there are examples from Assam, and I also possess specimens from the latter country. Mr. Hume obtained this species in the eastern Manipur Hills, and in his collection there is also an example from Tipperah. Blyth (J. A. S. B. 1863, p. 75) gives as a habitat, "Shan Hills, East of Ava;" and in Blyth and Walden's 'Birds of Burmah,' the species is said to be found in the Khasias and in Arakan. Mr. Oates states:—"In Upper Pegu it occurs from Thayetmyo to Tonghoo, but it is not very common anywhere." I have received from Capt. Bingham a female specimen obtained by him on the hills just north of Pegu Town. Major Wardlaw Ramsay records it from the Karen-nee Hills, at 3000 feet elevation. Messrs. Hume and Davison (Str. F. vi. p. 138, 1878) state:—"In Tenasserim this species is confined to the northern and central portions of the province, occurring alike in the lower and highest hills, and even in the plains, though rare

there, and not very common anywhere." Mr. Davison says "it occurs alike in moderately thin and dense forests, and is found right up to the top of Mooleyit." Mr. Hume's collection contains specimens from the following localities— "Pine forests, Salween; Kollidoo; Pahpoon; Wimpong; Myawadec; Kaukaryit; Hounghthraw River; Mooleyit; and the Thounghyeen River." Captain Bingham observes that in the Thounghyeen Valley this species is even more abundant than *C. flavinucha*. It is beyond doubt that the present species is also found in the Malayan peninsula, as Mr. L. Wray has recently obtained a male specimen on the mountains near Perak, and he tells us that it is the only Woodpecker seen by him in the higher part of the hills (*cf.* Sharpe, P. Z. S. 1887, p. 443). This is the only Malayan example of *G. chlorolophus* that I have ever met with.

16. *GECINUS ERYTHROPYGIUS*.

Gecinus erythropygus, Elliot, N. Arch. du Mus. Bull. i. p. 76, pl. iii. (1865); Wardl. Ramsay, P. Z. S. 1874, p. 212, pl. xxxv. (♂ ♀); Wald. Ibis, 1875, pp. 148 and 463; Tiraut, Ois. Basse-Cochinchine, p. 89 (1879); Oates, Str. F. x. p. 191 (1882); id. B. Brit. Burm. ii. p. 52 (1883).

Gecinus nigrigenis, Hume, Proc. A. S. B. 1874, p. 106; id. Str. F. 1874, pp. 444 and 471; id. & Davison, op. cit. vi. p. 136 (1878); Bingham, op. cit. 1880, p. 163.

Picus nigrogenis, Giebel, Thes. Orn. iii. p. 170 (1876).

Adult male. Above, including wing-coverts, uniform vivid green; bastard-wing and primary-coverts black; quills black, the primaries barred with white on the outer webs, the inner having deep notches or broad bars of the same, but not extending to the shaft; outer webs of the secondaries margined with, or entirely green, this colour spreading on to the tips of some of the inner webs, which have large spots of white; shafts black; rump bright scarlet; upper tail-coverts dull green; tail and shafts uniform black, except a few minute buffy-white spots on the outer web of the penultimate feather; dwarf feather dusky black, the apical portion greenish; crown bright scarlet; nasal plumes and the rest of the head

and occiput velvety black; a narrow white stripe from behind the eye, becoming tinged with yellow as it approaches the side of the neck; chin, throat, and upper part of the side of the neck bright gamboge-yellow, the rest of the neck becoming greenish, this colour spreading over the breast; underparts greyish, with small dusky V-shaped markings formed by an intermarginal line; the dark markings on the thighs more defined and barred; under tail-coverts deep dusky, lighter on the margins, and having large and well-defined V-shaped white markings; under wing-coverts white tinged with yellow near the edge of the wing, with irregular bars and V-shaped black markings; axillaries white, with a faint dusky bar near the tip: "legs and feet dirty brownish or plumbeous green; bill dark horny brown or blackish, yellowish at base of lower mandible; irides pale to bright gamboge-yellow" (*Hume & Davison*). Total length 13 inches, culmen 1.4, wing 6.15, tail 4.5, tarsus 1.15; toes (without claws)—outer anterior 0.8, outer posterior 0.75, inner anterior 0.65, inner posterior 0.45.

Young male. Less brilliant in colour than the adult male, but in other respects resembling it.

Adult female. Differs from the adult male in the absence of the scarlet crown, this being deep velvety black, like the rest of the head: "legs and feet dirty brownish green; bill horny brown, upper mandible from nostrils to base, and lower mandible from angle of gonys to base, with gape, greenish yellow; irides from pale to gamboge-yellow" (*Hume*). Total length 12.75 inches, culmen 1.4, wing 6.35, tail 4.7, tarsus 1.15.

This beautiful species was first described under the name of *Gecinus erythropygius* by Mr. D. G. Elliot (*Nouv. Arch. du Mus., Bull. i. p. 76, pl. iii., 1865*); the specimen was a female, and had been procured in Cochin China by M. Germain. Major Wardlaw Ramsay, during his stay in British Burman, procured both sexes of this species a few miles to the north of Tonghoo, and, believing the bird to be new, bestowed upon it, strange to say, the same title as Mr. Elliot had given to his Cochin-China bird, viz. *Gecinus erythro-*

pygius. Major Wardlaw Ramsay's description, together with figures of both species, will be found in the 'Proceedings of the Zoological Society,' 1874, p. 212, pl. xxxv. About the same time Mr. Hume described, under the name of *Gecin*us *nigrigenis*, a Woodpecker which had been obtained about 100 miles south of the locality whence Major Wardlaw Ramsay's specimens came, considering it to be distinct from *G. erythropygius* of Elliot. It is remarkable that the descriptions by Major Wardlaw Ramsay and Mr. Hume should have been published within a few days of each other, the former having the priority, but the name being preoccupied by Mr. Elliot. Believing that the Burmese and the Cochin-China birds are distinct, Mr. Hume is therefore of opinion that his name ought to stand for the Burmese bird; and in 'Stray Feathers,' 1874, p. 471, he gives the dimensions of the Cochin-China specimen, and also states the differences in coloration between it and his own species, adding that "only one in ten of his specimens has the stripe behind the eye, and that this stripe is *white*, whereas in Elliot's bird it is *yellow*." According to Mr. Hume's own showing, this difference cannot be regarded as of any value, because on a previous page, 446, in describing a specimen of a female of his *G. nigrigenis*, he states that "a pale yellow stripe runs backward over the ear-coverts." I have not seen Mr. Elliot's type specimen, but from his description I fail to see in what respect the Burmese bird differs from his species. In point of size the former has the advantage, but this is of little weight, as many species of Burmese Woodpeckers exceed in measurement similar species from other localities, without suggesting any specific difference. I am of opinion that there is only one red-rumped species, that the birds may or may not have the eye-stripe, and that this stripe may range from white to yellow. It is the only species of Woodpecker, known to me, in which a character is sometimes present and at other times absent in adult birds of either sex.

The habitat of this species may be said to be the northern and eastern part of Pegu, northern Tenasserim, Siam, and Cochin China, but how far it ranges through the latter

countries is not known. Major Wardlaw Ramsay found it at the foot of the Karen Hills to 6000 feet elevation, and at Tonghoo. Mr. Eugene Oates also procured it at Tonghoo.

In Tenasserim, according to Messrs. Hume and Davison (Str. F. vi. p. 136, 1878), this species is "confined to the drier and more thinly wooded hills of the outer Tenasserim range in its northern and central portions, and there not rare," to which Mr. Davison adds the following note:—"I only obtained this species on the hills to the north of Palphoon, and again all about Myawadee and the country between this and Mooleyit. It is not a bird of the dense forests, and does not ascend Mooleyit. It does not, that I am aware, extend to the low flat country anywhere, nor do I know of its occurring anywhere south of Paraduba. I did not find it anywhere about Meetan."

Capt. Bingham informs us that "in all the Thoungyeen valley it is fairly common but local. In the laterite belt, covered with Eng (*Dipterocarpus*) forest, that runs parallel to the Thoungyeen river, north of Meeawuddy, I found it plentiful; its peculiar cry, and the rich contrast of the jet-black cheeks with the yellow of the chin and throat, once heard and seen, are not easily forgotten." I have in my collection a specimen obtained by Capt. Bingham in the Thoungyeen Valley, on the Siamese side of the river, so that it may reasonably be assumed that the species will range further into the latter country.

Dr. Tiraut (Ois. Basse-Cochinchine, p. 89 (1879), states that he obtained this species in Lower Cochin China, and it may be interesting to give his notes on it:—"I have killed at Srok-tranh two males of this splendid Green Woodpecker, which is distinguished from all the *Gecini* by its vermilion-red rump; also a female at Suõc nuõc. On both these occasions I found this bird inhabiting the jungles of large thorny bamboos, and my personal observation is in harmony with that of Davison, in Tenasserim, regarding the *G. nigrigenis* of Hume, which appears to be the same bird. The type specimen of Elliot's description came from Cochin China, whence it had been sent by the Commandant Bousigon, and

not from Siam, as erroneously stated by Hume." Mr. Hume (Str. F. 1874, p. 471) distinctly states that Mr. Elliot's bird was discovered by M. Germain in Cochin China, and I am not aware that Mr. Hume ever made mention of the type of *G. erythropygius* of Elliot having come from Siam.

XIV.—*On a Collection of Birds from the Island of Paláwan.*

By R. BOWDLER SHARPE, F.L.S., F.Z.S., &c.

(Plates III., IV.)

My friend Mr. John Whitehead has sent a fine collection of birds as the result of his expedition to Paláwan. He was unsuccessful in getting far into the interior of the island, and was therefore obliged to collect in the neighbourhood of Puerto Princesa, which had been the scene of the labours of Professor Steere and of Mr. Everett. It is sufficient to state that Mr. Whitehead has obtained examples of every species but one met with in Paláwan by the before-mentioned naturalists, and Mr. Lempriere also; while he has added to the list 60 species previously unrecorded from Paláwan, thus nearly doubling the known avifauna of the island. Out of 129 species now enumerated from the island, no less than 35 are peculiar to Paláwan, and of the rest 14 are found in the Philippines, but not in Borneo; while 33 are known from Borneo, but have not been recorded from the Philippines. The presence in Mr. Whitehead's collection of a *Cryptolopha*, almost, if not quite identical with *C. montis* of Kina Balu, indicates that there may be an unexpected affinity between the mountain fauna of Paláwan and North Borneo, and it will be rash to generalize upon our present information as to the zoo-geographical relations of the island.

The following I believe to be a complete list of the birds now known to inhabit Paláwan. Those peculiar to the island are marked with a dagger (†), and the letter "[B.]" or "[P.]" indicates the Bornean or Philippine habitat of the species, so as to give some idea of the relations of the avifauna